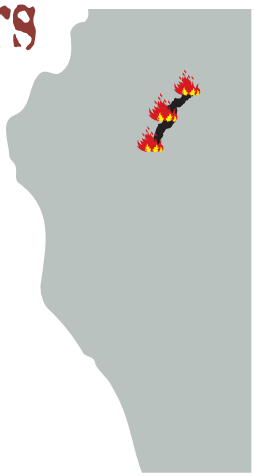
Point of Origin

The community is where awareness begins

Fall 2005

Cottonville Fire is Wisconsin's Largest in More than 25 Years

By Jennifer Rabuck



When people think of large wildfires, Wisconsin isn't the first state that comes to mind. In fact, unless you think far back – to 1872 and the 3.7-million acre Peshtigo Fire that claimed more than 1,200 lives – you might completely overlook the Dairy State. But make no mistake: Wisconsin has fuels and therefore, wildfires. In 1980, two fires burned in northern Wisconsin at the same time, eventually consuming a total of 16,000 acres and 200 buildings. Approximately every 10 years, the state plays host to a wildfire that may consume more than 500 acres, and in any given year, Wisconsin Department of Natural Resources (WDNR) suppression resources respond to an average of 1,600 wildland fires with a combined total of 3,400 acres (just over two acres per fire). Nearly all wildfires in Wisconsin are human-caused. Combine that with the growing number of people living and enjoying the woodlands of Wisconsin, and the stage is set for disaster. Such a disaster occurred this year with the Cottonville Fire.

A Typical May Day

Just after 1330 HRS on May 5, the Adams County Sheriff's Department received a 9-1-1 call for a grass fire burning out of control. It was a "typical" May day in the state – sunny and 75 degrees, with winds averaging 14-mph from the southwest. Only the 18 percent relative humidity was uncharacteristically low. Within seconds, WDNR fire tower staff spotted the smoke. Rangers arrived on scene to find a rapidly spreading brush fire. Upon sizing up the location of the fire, current weather, surrounding fuels and extreme fire behavior, supervising Ranger John Schwingel activated the local incident management team. Immediately, local volunteer fire departments (VFDs) responded by providing initial structure

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From the Editors...

Our purpose is to provide you with information about the services, products, and direction of the Wisconsin DNR and the various partners in protection, referring specifically to wildfire prevention, suppression, and outreach. Building partnerships is the key to success!

WISCONSIN DEPT. OF NATURAL RESOURCES

DIVISION OF FORESTRY

We in the Wisconsin DNR- Bureau of Forest Protection would like to extend an invitation to our fellow cooperators by soliciting information or topic ideas from our readers. If you have any ideas for the newsletter, contact:

Wisconsin DNR-Division of Forestry "The Point of Origin" P.O. Box 7921, Madison, WI 53707-7921

608-266-2359 or 608-267-7677

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Visit our website for more information at: www.dnr.wi.gov/org/land/forestry/Fire/

protection. The WDNR dispatched additional resources to tend to the spreading blaze, while law enforcement officials began the race against time to evacuate residents in the path of the fire.

Named the Cottonville Fire, the blaze burned in the sand country of central Wisconsin. Typical fuels for the area include predominantly pine species (jack, red and white pine), with some oak and a variety of brush species. The local economy is based primarily on pulpwood production for paper companies. Many large land blocks are owned by paper companies and hold single age-class pine. Other sections of land are privately held, often enrolled as tree farms, producing pine "cornfields." The land surrounding the origin of the Cottonville Fire had burned in 2001, and now held thick, dog-hair jack pine standing 5–10 feet tall. These pines allowed the fire to crawl into the nearby mature pine canopy. Pushed by strong and gusty southwest winds, the fire easily outpaced suppression efforts.

Simple Strategy

CL-215 from Minnesota DNR

The interagency incident management team, comprised of WDNR and U.S. Fish & Wildlife Service firefighters, set up in the Big Flats VFD and Town Hall. The incident management team divided the operations section into a structural branch and a wildfire branch. Air resources included two single-engine airtankers (SEATs) on local contract with the WDNR and a CL-215 from the Minnesota DNR. In addition, two air attack planes flew overhead, directing drops and serving as spotters for ground crews. Law-enforcement agencies from around the state worked to evacuate an expanding perimeter, eventually sealing off a 10-square-mile area. Pineland Elementary School served as an evacuation center for those displaced by the fire.

The strategy was simple: Anchor the fire near the origin and flank the fire using tractor plows. Air resources cooled the flanks for ground crews and protected structures as time permitted. Roche-A-Cri Creek, a multiple-channel river, ran in a shallow gorge just west of the fire. The goal: to keep the fire from jumping that natural barrier.

Meanwhile, the structural branch called into action a pre-existing plan that divided the area into zones. Emergency management personnel in Wisconsin created structural zones – set up to handle disaster situations and evacuations – more than 20 years ago, but the Cottonville Fire was the first time firefighters used them. Prior to the blaze, fire departments in Adams County participated in simulations using the zones; the county updated structural map books in the spring and distributed them to all of the local departments. During the Cottonville Fire, personnel activated and staffed 17 zones with a chain of command that included a zone boss, a fire department boss, a structural branch director, and the operations section chief. The pre-existing zones allowed for faster, more effective use of fire department resources and improved span of control and supervision; combined with rapid dispatch of VFD forces, they significantly minimized structural losses.

Battling a wind-driven crown fire doesn't always go according to plan. One air attack pilot estimated that the flames consistently reached 300 feet above the tops of mature pines. The fire easily crossed several township roads. As it drew closer to a county highway, firefighting crews watched to see if the road would be enough to take the wind out of the fire's sails. Standing 1½ miles away at the incident command post (ICP), team members watched the fire easily lean over the major road, curl back up and consume fuel it had appeared to skip. Structural losses were heavy along the highway.

Assessing the Damage

Eleven hours and 3,410 acres later, firefighters contained the fire, which measured more than 1½ miles wide and nearly 7 miles long. Although firefighting resources were able to save more than 300 structures, the fire destroyed nine primary homes, 21 secondary/seasonal homes, and 60 other buildings – with a collective insured value of well over $1 million. Forest resources lost in the fire are expected to exceed property damages fourfold. In addition, several large propane tanks vented during the blaze and numerous 20-lb. cylinders on camper-trailers exploded. Although many power lines within the fire's perimeter were underground, an estimated 25 miles of electric lines were burned, resulting in downed poles, live wires and loss of power. Fortunately, the suppression and mop-up efforts did not lead to any serious injuries; one firefighter suffered mild dehydration and two others reported eye irritations. Officials safely evacuated all local residents and property owners prior to the fire's passage.

Once firefighters contained the fire and allowed residents back into their homes, the American Red Cross, the Salvation Army and Adams County Emergency Management counseled property owners on what to expect. Many homeowners anticipated melted siding and charred sheds. Instead, several returned to find twisted metal, blackened concrete, melted glass and little else.

Looking for Answers

Residents frequently expressed confusion over why "that place burned and not this one." One resident thought he had the answer. The local DNR ranger had included a flyer in residents' 2004 tax bills that gave property owners a list of eight Firewise tactics to help them prepare for a possible wildfire. This resident believes that because he followed the tips for his property, he was one of the fortunate ones – his structures were still standing.

Other homeowners mentioned they had been thinking of thinning their pine plantations or removing some of the vegetation from around their buildings, but few mentioned considering the risk of wildfire.

This portion of Adams County is heavily used for recreation–it is estimated that 70 percent of property owners are non-permanent residents. That figure accounts for the large number of mobile homes and camper-trailers used as seasonal residences. The majority of these structures are tucked back in small clearings in the woods, away from township roads. In most situations, building sites are minimal in size, with trees removed only during site development or if an individual tree presents a danger of falling on the structure. Few owners spend time on yard work such as mowing lawns,

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raking leaves and needles, pruning trees and clearing under decks. However, many structures did have some defensible space. Investigators continue to look at how site characteristics and construction materials correlate with structural survivability.

Resolution

The Cottonville Fire started when a property owner burned grass around a fire pit; he did not have a WDNR burning permit. Law-enforcement officials turned the case over to the Adams County District Attorney, who charged the 54-year-old man with lighting a fire and allowing it to escape, which carries a maximum $1,000 fine and 90 days confinement. The man may also be liable for suppression costs and damages.

Wisconsin Governor James Doyle declared a state of emergency and visited the fire site on May 6 to talk with residents and tour the disaster area. American Red Cross Disaster Assessment Teams evaluated the scorched landscape and determined it was not eligible for federal disaster relief (at least 50 primary dwellings must be lost to qualify for federal relief).

One for the History Books

Wisconsin's history is closely intertwined with fire. Pre-European settlement saw frequent prairie fires, in the 1800s loggers burned slash as they cleared their way west and settlers used fire to clear land and establish home sites. Suppression has also evolved throughout Wisconsin's history, from the earliest days of bucket brigades in Peshtigo; to 1948, when conservationist

Aldo Leopold died while fighting a grass fire near Baraboo; to present-day equipment and training. Following the Cottonville Fire, the careful balance between people and fire will continue to change as firefighters and residents learn more about their role in the wildland urban interface.

Jennifer Rabuck is an engine module supervisor for Leopold Wetland Management District, U.S. Fish and Wildlife Service, in Portage, Wis. She has worked wildfires for 11 years and served as the information officer on the Cottonville Fire.

Save the Date for Wildland Fire 2006

March 8-9, Phoenix Civic Plaza, Phoenix, AZ

The Problem:

Catastrophic wildland fire kills our firefighters and citizens, threatens our communities, destroys our natural resources and exacts a huge cost.

Are You Prepared:

- How effective are your preparedness and response efforts?
- Are you engaging all stakeholders and resources effectively?
- How does the National Fire Plan work for you?
- Are your analytical tools and new technologies really working?
- How do your planning and response efforts support a positive environmental impact and protect natural resources?
- What can be done to stem catastrophic wildland fires in the next year… next decade?

Work towards a solution. Make the Wildland Fire conference your first interagency response of 2006!

Registration opens in October.
For more information, visit:
www.iafc.org/wildland

Or email: wildlandfire@iafc.org

Prescribed Fire: Igniting Possibilities for Land Management

January 24-26, 2006 Wisconsin Prescribed Fire Conference

This first statewide conference on prescribed fire will be held in Wisconsin Dells at the Wintergreen Resort, covering topics including air quality, burn planning, right to burn legislation, liability, fuel reduction hazard mitigation, ecological effects, and invasive species management. Please visit www.prescribedfire.org for more information.

Highlights

Registration Fee:

(Registration will start September 1st, 2005)

- Before 01/01/06

  $85 for entire conference (includes breaks, lunch and dinner on 1-25-06)

  $35 per day

Sponsored By:

Driftless Land Stewardship, Wisconsin Department of Natural Resources, Savanna Oak Foundation, US Fish and Wildlife Service, The Nature Conservancy, Chequamegon-Nicolet National Forest, Aldo Leopold Foundation, Lumberjack Resource Conservation & Development Council, USDA Forest Service National Fire Plan Grant

General Presentations:

- Fire History in the Great Lakes Region
- Smoke Management and Regulation
- Agency and Organization Panel – Status Reports on Prescribed Burning in Wisconsin
- Improving Prescribed Burning in Wisconsin, Open Discussion of Issues and Concerns
- Keynote: Social Climate for Fire Management
- Global Fire Management: Opportunities for Cooperation

Break-Out Presentation Categories:

- Fire Practices/Techniques
- Ecological Issues
- Outreach
- Administration

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Training Burns: A Guide to the Process of Fire Training

Inspect and notify are the two actions state asbestos regulations call for when your department has the opportunity to conduct a fire training burn. Planning ahead will keep you in compliance with the rules and make the burn go more smoothly – and safely. Practically speaking, fire departments should plan to have all the asbestos in a building removed (abated) well before the fire training. Otherwise, after the burn, the ash and remaining debris must be disposed of as asbestos containing waste. To do things properly, an inspection must be done before any asbestos is disturbed; and one cannot know what materials lurk in a building until it is thoroughly inspected.

Hire a licensed inspector

Since all asbestos should be removed from a structure before the fire training burn, a state licensed asbestos inspector must go through the building. The Wisconsin Department of Health and Family Services (DHFS) licenses inspectors in Wisconsin. Inspectors are listed in the "investigator" category on the DHFS web site, http://www.dhfs.state.wi.us/. Go to that web site; click on environmental; asbestos; certified professionals. Or call the DHFS asbestos office at (608) 261-6876 and an employee will fax or e-mail you a current list of inspectors.

Give your fire department enough lead time when calling an inspector: It might take from a few days to a couple weeks to conduct the inspection and receive materials sampling results. And that is just the first step of the process. Read on.

Wisconsin Department of Natural Resources (DNR) rules indicate who must hire (or schedule) the inspector: either the property's owner or its operator. The rules define owner/operator as "any person who owns, leases, operates, controls, or supervises the facility being demolished [burned] ... or any person who owns, leases, operates, controls, or supervises the demolition ... operation [burn], or both." Fire departments qualify as operators for fire training burns.

Local, regional, or county fire organizations might choose to send someone to a three-day asbestos inspection training course. This would save departments money, while allowing the fire organization to perform the inspection, including identification of all asbestos in the burn structure. Information on upcoming classes can be found on the DHFS web site listed above.

Inspection Results

Whether or not the inspector finds asbestos, an asbestos notification must be filed with the DNR. Again, the "owner or operator" must do this using the inspection results. This can be done with DNR Form 4500-113, "Notification of Demolition and/or Renovation and Application for Permit Exemption." Two copies must be mailed in, not faxed: one to the DNR regional office and one to the DNR central office in Madison. Notification is free for stand-alone, residential structures with four or fewer dwelling units. But for other structures (e.g. commercial) a notification fee of $50 (and up to $335 for large amounts of asbestos) is due with notification.

If the inspector finds any asbestos, it should all be abated, but now the DHFS asbestos office must be notified in addition to the two DNR offices. DHFS is always notified when work with asbestos will be undertaken. The two departments have slightly different notification time requirements, but by mailing the notification two weeks or more before any asbestos work is planned on the structure, your fire department will be OK. Again, use Form 4500-113 to notify.

Asbestos Abatement

On a stand-alone residential structure with four or fewer dwelling units, the owner can choose to remove the asbestos without an asbestos abatement license. However, licensed asbestos workers must be used in the following cases: owner chooses to hire out the abatement work; fire department hires out the work; building is other than the type of residential structure just described (such as commercial). The DHFS web site lists abatement companies with licensed workers.

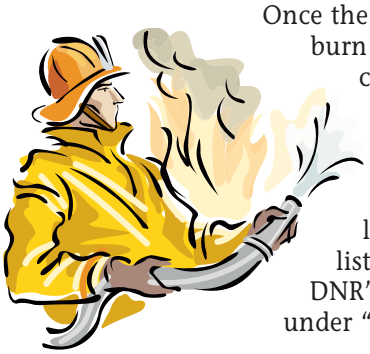
Filling out Form 4500-113

The current version of Form 4500-113 can be found on the DNR webpage http://www.dnr.state.wi.us/org/aw/air/reg/asbestos/asbes8a.htm Print out the form, fill it out completely, and mail it in. The web page also contains a link to instructions for filling out the form and tells how to send copies to the DNR central and regional offices.

In box #6 of the form for Type of Project, check "Fire Training Burn." In box #10, for Dates of Renovation/Demolition, write the scheduled date of the burn; a range of dates up to a month long is acceptable if the burn is dependent on weather or other factors. Just be sure to give the DNR Asbestos Coordinator a "heads up" phone call at (608) 266-3658 a day before the actual burn day.

The notification form has spaces for abatement contractor, demolition contractor, facility owner, and waste disposal site/transporter. Usually, the fire department's name and contact information is written under "Demolition Contractor." Fill in the other information as completely as possible. Call the DNR Asbestos Coordinator if you have questions.

After the Burn



Once the training burn is complete, cold ash and debris must be disposed of at a state-licensed landfill. For a list, see the DNR's web site under "Waste."

Fire Training Versus Open Burning

Fire training burns may only be conducted on a standing structure that offers some training value: Buildings may not be burned for the sole purpose of waste reduction; nor may they be burned by an entity other than a fire department. Open burning is strictly regulated by the state and usually by local governments, too.

NFPA Regulations Coincide

NFPA rules reinforce the thrust of the state's rules NFPA regulation 1403, "Standard on Live Fire Training Evolutions," Section 2-2.2, requires "permits required for the exercise, including permits for air quality…be researched thoroughly." Also, NFPA 1403 2-2.10(j) states, "All forms of asbestos deemed hazardous to personnel shall be removed by an approved asbestos removal contractor." There are no known safe levels of asbestos exposure.

Why Asbestos is Regulated

Asbestos is regulated because it is a known human carcinogen and a cause of respiratory disease. Most forms of asbestos burn at 2,732 degrees F (1500 degrees C). Therefore, asbestos will not burn during a training burn. If asbestos is not properly removed before the fire, some of it will contaminate the air and some of it will remain in the ash resulting from the fire.

Asbestos is classified into several categories: The two most basic are friable and non-friable. Friable means it crumbles when hand pressure is applied. Non-friable materials are further separated by whether or not they are resilient and pliable or rigid and brittle, and by whether they have the potential to become friable. In a fire, most materials that contain asbestos would combust, rendering the asbestos fiber content friable and causing it to release into the air.

Asbestos is found on and in boilers, heaters, piping, electrical equipment, flooring, and water heaters. It is also found in range hoods, roofing, siding, and many other building materials.

A popular misconception is that asbestos is not used in new construction. Actually, asbestos containing materials are still manufactured in the U.S., and they are imported – though not always labeled.

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Where Can I Find the DNR Rules?

The two state agencies responsible for regulating fire training burns are the DNR and the DHFS. Within the DNR, training burns are covered under language for "intentional burning" NR447, Control of Asbestos Emissions; see NR447.02(11) and NR447.08(10) at http://www.legis.state.wi.us/rsb/code/nr/nr447.pdf. under language for "fire training burns." For NR502, Solid Waste rules; see NR 502.11(2)(c) and NR 502.11(2)(c) at http://www.legis.state.wi.us/rsb/code/nr/nr502.pdf. This article does not account for County and Local ordinances.

For questions, please do not hesitate to phone the DNR's Asbestos Coordinator at (608) 266-3658.

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